

## LEGEND:

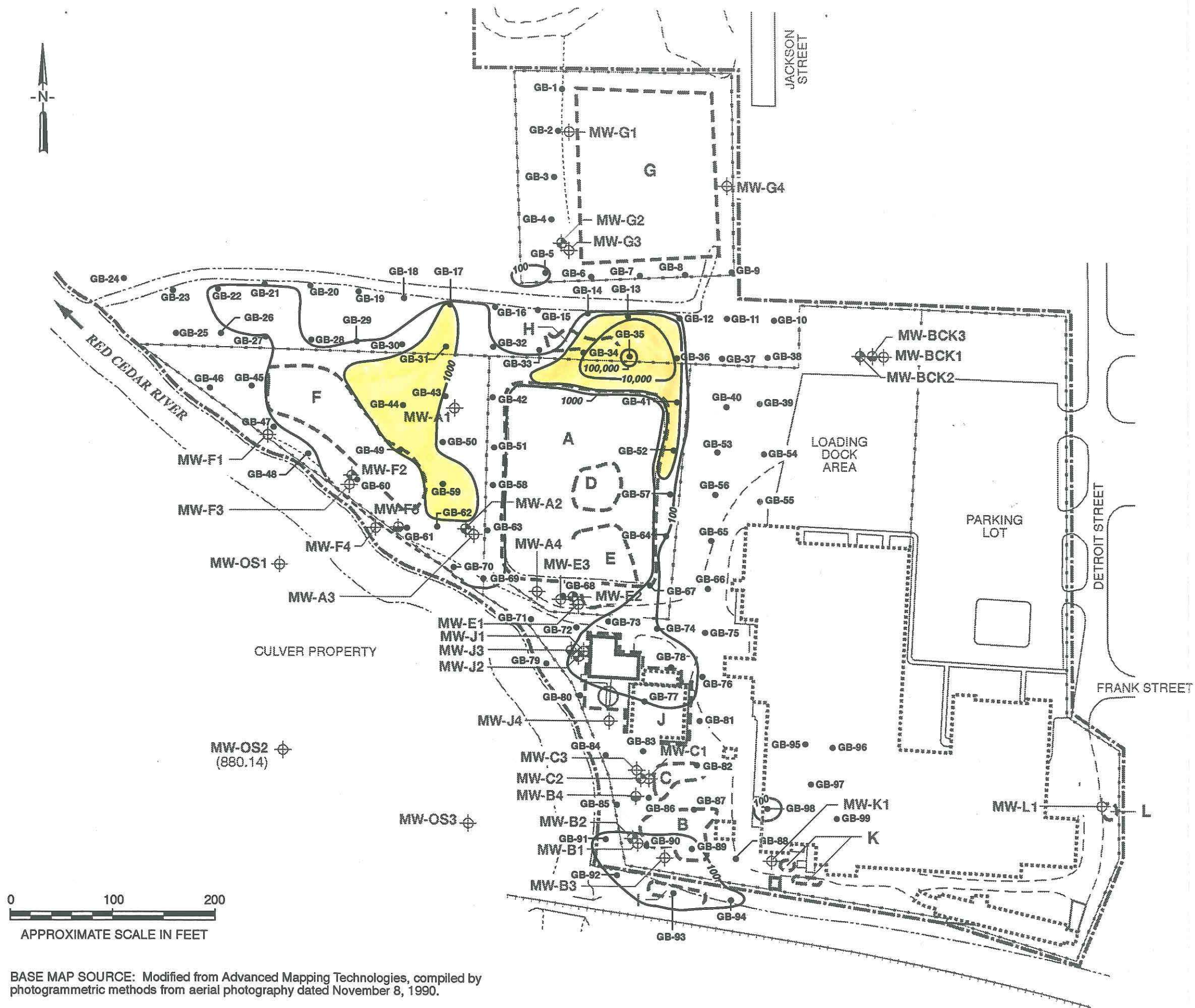
- FACILITY BOUNDARY
- FENCELINE
- ROADWAY
- PATHWAY
- RAILROAD TRACK
- FORMER BUILDING
- SURFACE WATER BODY
- ⊕ DAMES & MOORE SHALLOW MONITORING WELL LOCATION
- ⊕ DAMES & MOORE INTERMEDIATE MONITORING WELL LOCATION
- ⊕ DAMES & MOORE DEEP MONITORING WELL LOCATION
- (154) TOTAL HALOGENATED VOC CONCENTRATION (µg/L) DETECTED FEBRUARY 1994
- (ND) NOT DETECTED
- 5000 HALOGENATED VOC CONCENTRATION CONTOUR (µg/L), (Dashed where inferred) CONTOUR INTERVAL = 1000,
- SOLID WASTE MANAGEMENT UNIT BOUNDARY
- A AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B ORIGINAL EFFLUENT POND
- C FORMER SETTLING POND
- D FORMER SETTLING POND
- E FORMER SETTLING POND
- F AREA OF UNTREATED SLUDGE DISPOSAL
- G AREA OF CHEMFIXED SLUDGE DISPOSAL
- H CHEMFIXED SLUDGE SPILL\*
- I DRAINAGE DITCH\*
- J WASTE WATER TREATMENT PLANT
- K FORMER TANKS A AND B AREA
- L FORMER TANK C AREA

\* The spill and the ditch are not necessarily solid waste management units, but are areas to be investigated.

**STANLEY TOOLS**  
FOWLerville, MICHIGAN

**FIGURE 5-13**  
**TOTAL HALOGENATED VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUND WATER**





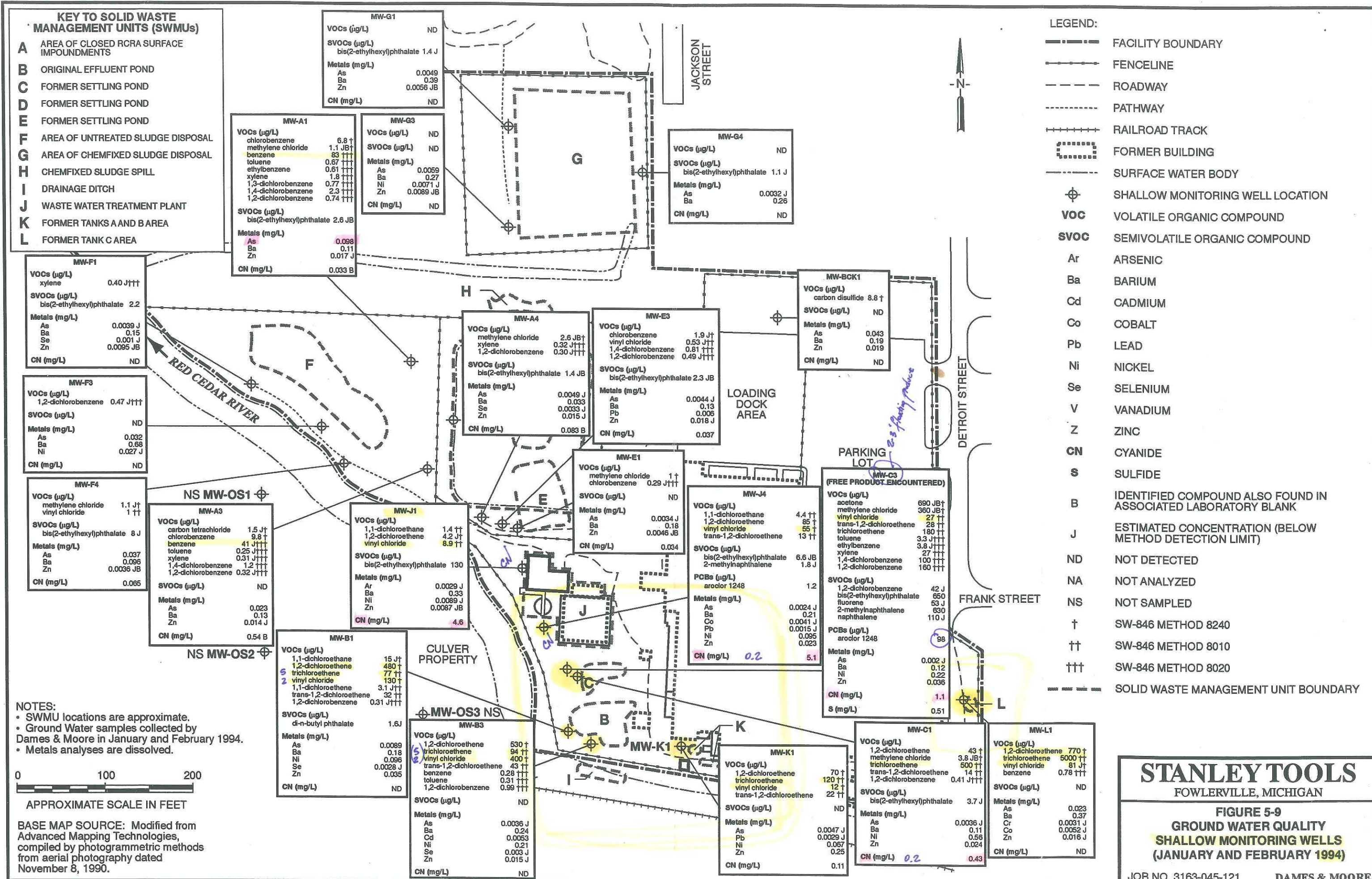
BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.





BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.







- KEY TO SOLID WASTE MANAGEMENT UNITS (SWMUs)**
- A** AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B** ORIGINAL EFFLUENT POND
- C** FORMER SETTLING POND
- D** FORMER SETTLING POND
- E** FORMER SETTLING POND
- F** AREA OF UNTREATED SLUDGE DISPOSAL
- G** AREA OF CHEMFIXED SLUDGE DISPOSAL
- H** CHEMFIXED SLUDGE SPILL
- I** DRAINAGE DITCH
- J** WASTE WATER TREATMENT PLANT
- K** FORMER TANKS A AND B AREA
- L** FORMER TANK C AREA

**MW-A2**

<b>VOCs (µg/L)</b>	
carbon tetrachloride	1.3 J†
chlorobenzene	2.0 J†
methylene chloride	1.1 JB†
1,3-dichlorobenzene	0.49 †††
1,4-dichlorobenzene	0.95 †††
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	5.4 JB
<b>Metals (mg/L)</b>	
As	0.0096
Ba	0.16
Pb	0.0010 J
Se	0.0034 J
Zn	0.027
<b>CN (mg/L)</b>	0.0014 B

**MW-G2**

<b>VOCs (µg/L)</b>	ND
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	1.4 J
<b>Metals (mg/L)</b>	
As	0.002 J
Ba	0.056
Ni	0.0075 J
Se	0.0014 J
Zn	0.0046 JB
<b>CN (mg/L)</b>	ND

**MW-BCK2**

<b>VOCs (µg/L)</b>	
methylene chloride	2.6 JB†
1,4-dichlorobenzene	0.81 †††
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	8.1 JB
<b>Metals (mg/L)</b>	
As	0.014
Ba	0.18
Co	0.0035 J
Se	0.025
Zn	0.013 B
<b>CN (mg/L)</b>	0.013 B

**MW-BCK3**

<b>VOCs (µg/L)</b>	
carbon disulfide	13 †
<b>SVOCs (µg/L)</b>	ND
<b>Metals (mg/L)</b>	
As	0.006
Ba	0.13
Co	0.0053 J
Zn	0.0092 J
<b>CN (mg/L)</b>	ND

**MW-F2**

<b>VOCs (µg/L)</b>	ND
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	5.4 J
<b>Metals (mg/L)</b>	
Ba	0.031
Se	0.001 J
Zn	0.0095 JB
<b>CN (mg/L)</b>	ND

**MW-F5**

<b>VOCs (µg/L)</b>	
tetrachloroethene	1.8 J†
<b>SVOCs (µg/L)</b>	ND
<b>Metals (mg/L)</b>	
As	0.0040 J
Ba	0.31 J
Zn	0.016 J
<b>CN (mg/L)</b>	0.017

**MW-J3**

<b>VOCs (µg/L)</b>	
vinyl chloride	17 †
<b>SVOCs (µg/L)</b>	ND
<b>Metals (mg/L)</b>	
As	0.0033 J
Ba	0.03
Zn	0.028
<b>CN (mg/L)</b>	16.9
<b>S (mg/L)</b>	0.95

**MW-B4**

<b>VOCs (µg/L)</b>	
acetone	33 †
1,2-dichloroethene	1.5 J†
1,1-dichloroethane	0.49 J††
Trichloroethene	0.47 ††
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	3.2 J
phenol	3.9 J
<b>Metals (mg/L)</b>	
Sb	0.018 J
As	0.0036 J
Ba	0.1
V	0.0045 J
Zn	0.012 J
<b>CN (mg/L)</b>	ND
<b>S (mg/L)</b>	0.058

**MW-B2**

<b>VOCs (µg/L)</b>	ND
<b>SVOCs (µg/L)</b>	ND
<b>Metals (mg/L)</b>	
As	0.014
Ba	0.14
Se	0.0024 J
Zn	0.014 J
<b>CN (mg/L)</b>	ND

**MW-J2**

<b>VOCs (µg/L)</b>	ND
<b>SVOCs (µg/L)</b>	ND
<b>Metals (mg/L)</b>	
As	0.014
Ba	0.26
<b>CN (mg/L)</b>	0.066

**MW-C2**

<b>VOCs (µg/L)</b>	ND
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	1.2 J
<b>Metals (mg/L)</b>	
As	0.013
Ba	0.17
Zn	0.13
<b>CN (mg/L)</b>	ND

**MW-E2**

<b>VOCs (µg/L)</b>	
benzene	0.54 †††
toluene	0.63 †††
chlorobenzene	0.67 †††
ethylbenzene	0.72 †††
xylene	2 †††
1,3-dichlorobenzene	0.51 †††
1,4-dichlorobenzene	0.51 †††
1,2-dichlorobenzene	0.46 J††
<b>SVOCs (µg/L)</b>	
bis(2-ethylhexyl)phthalate	10
<b>Metals (mg/L)</b>	
As	0.011
Ba	0.15
Zn	0.014 J
<b>CN (mg/L)</b>	ND

- LEGEND:**
- FACILITY BOUNDARY
- FENCELINE
- ROADWAY
- PATHWAY
- RAILROAD TRACK
- FORMER BUILDING
- SURFACE WATER BODY
- ⊕ INTERMEDIATE MONITORING WELL LOCATION
- ⊕ DEEP MONITORING WELL LOCATION
- VOC** VOLATILE ORGANIC COMPOUND
- SVOC** SEMIVOLATILE ORGANIC COMPOUND
- As ANTIMONY
- Ar ARSENIC
- Ba BARIUM
- Co COBALT
- Pb LEAD
- Ni NICKEL
- Se SELENIUM
- V VANADIUM
- Z ZINC
- CN** CYANIDE
- S** SULFIDE
- B IDENTIFIED COMPOUND ALSO FOUND IN ASSOCIATED LABORATORY BLANK
- J ESTIMATED CONCENTRATION (BELOW METHOD DETECTION LIMIT)
- ND NOT DETECTED
- † SW-846 METHOD 8240
- †† SW-846 METHOD 8010
- ††† SW-846 METHOD 8020
- SOLID WASTE MANAGEMENT UNIT BOUNDARY

**NOTES:**

- SWMU locations are approximate.
- Ground water samples collected by Dames & Moore in February 1994.
- Metals analyses are dissolved.

**STANLEY TOOLS**  
FOWLerville, MICHIGAN

**FIGURE 5-10**  
**GROUND WATER QUALITY**  
**INTERMEDIATE AND DEEP**  
**MONITORING WELLS**  
**(FEBRUARY 1994)**

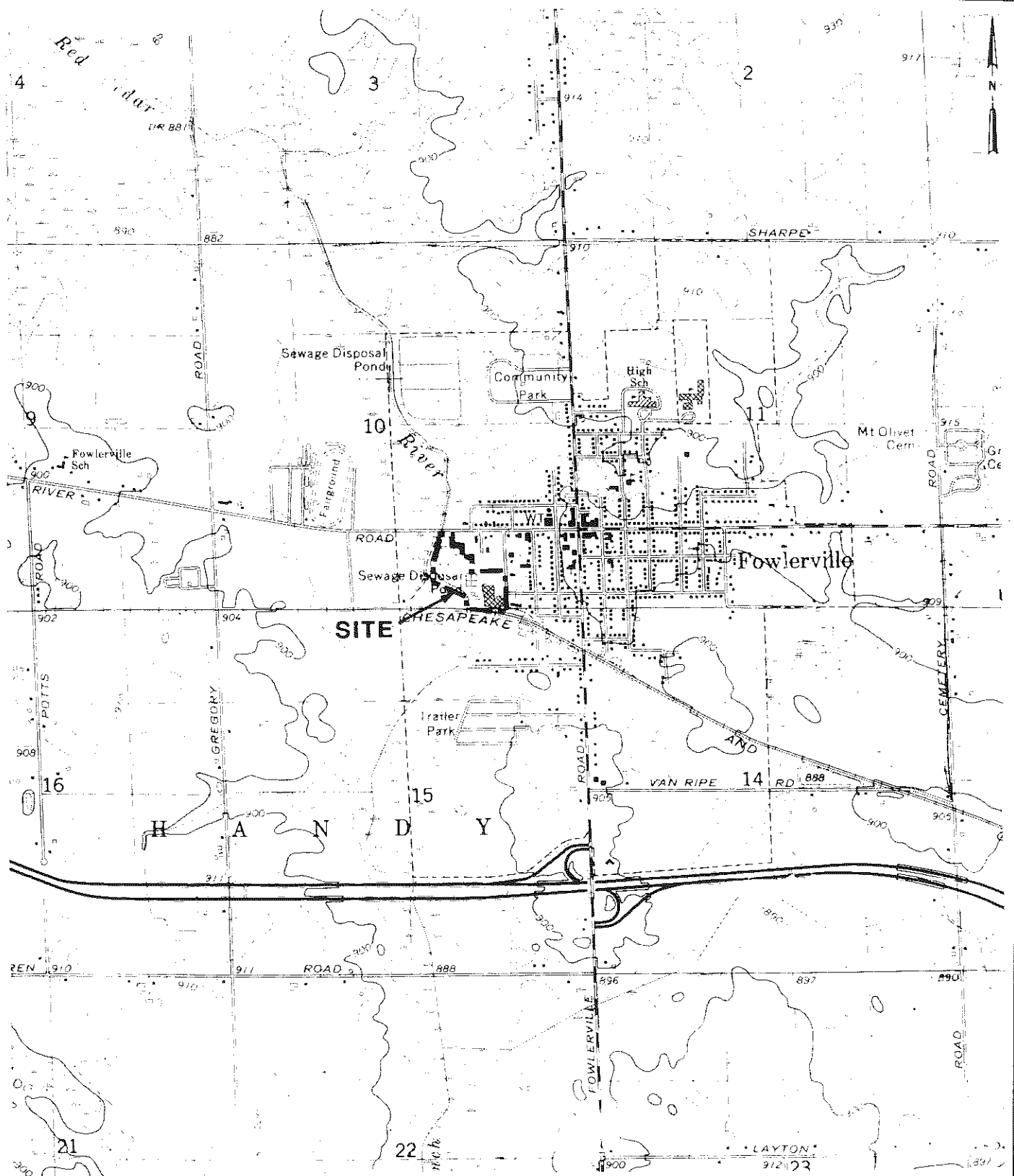
JOB NO. 3163-045-121 DAMES & MOORE

0 100 200  
APPROXIMATE SCALE IN FEET

BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

STANLEY 8 (rfi)





BASE MAP SOURCE: USGS 7 1/2 minute  
topographic quadrangle map Fowlerville,  
Michigan 1973.

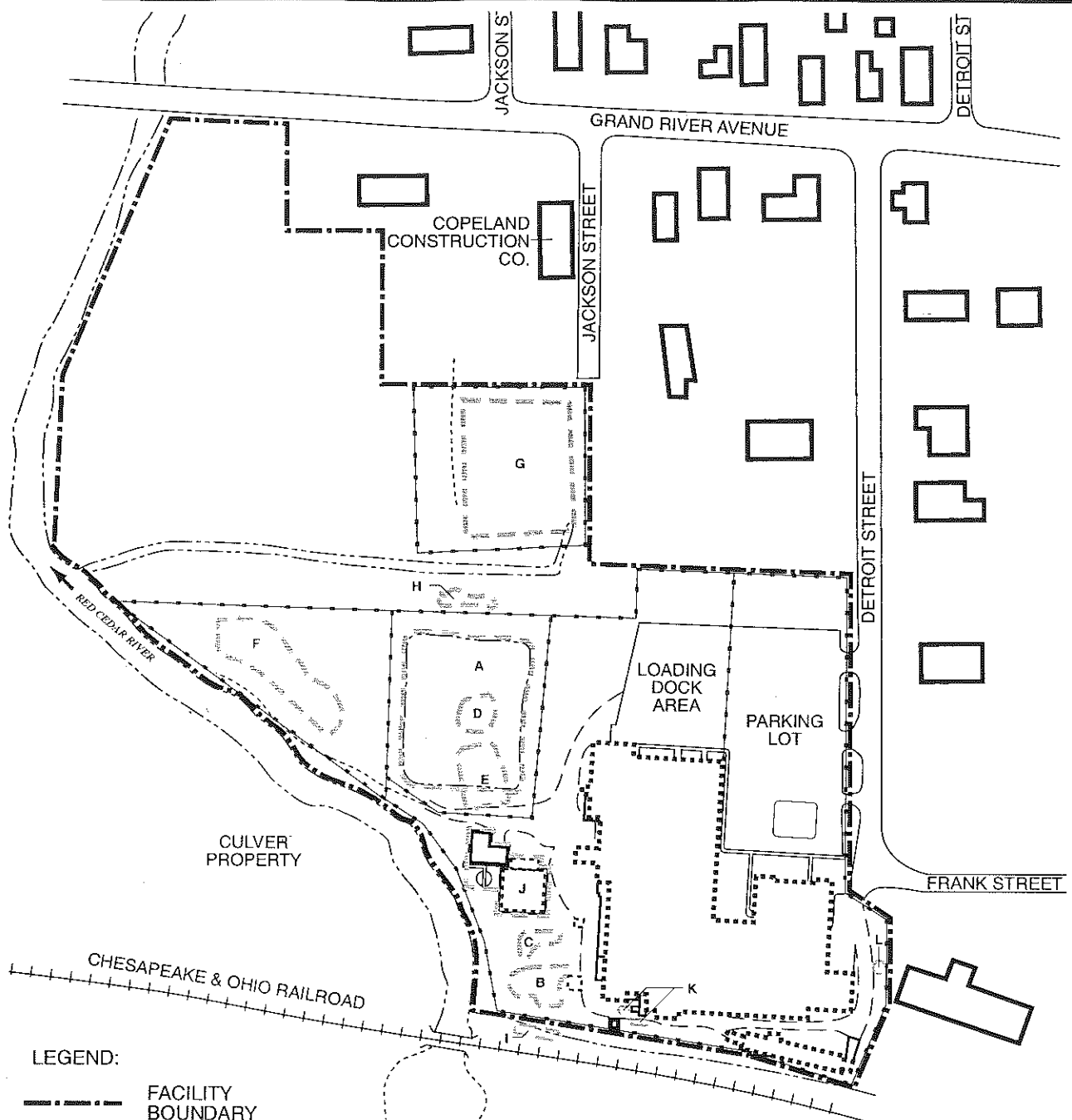
**Johnson Controls, Inc.**  
Former Stanley Tools Facility  
Fowlerville, Michigan

FIGURE 1-1  
SITE VICINITY MAP

JOB NO. 20209-020-121

**URS**



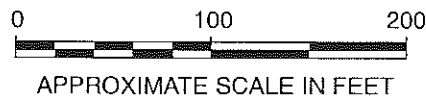


LEGEND:

- FACILITY BOUNDARY
- FENCELINE
- ROADWAY
- PATHWAY
- +++ RAILROAD TRACK
- FORMER BUILDING
- SURFACE WATER BODY
- SOLID WASTE MANAGEMENT UNIT BOUNDARY

- A** AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B** ORIGINAL EFFLUENT POND

- C** FORMER SETTLING POND
- D** FORMER SETTLING POND
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- K** FORMER TANKS A AND B AREA
- L** FORMER TANK C AREA



NOTE: SWMU locations are approximate.

BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

**Johnson Controls, Inc.**  
Former Stanley Tools Facility  
Fowlerville, Michigan

FIGURE 1-2  
SITE LAYOUT MAP



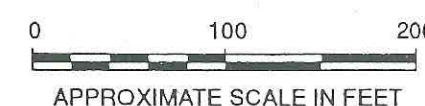


- LEGEND:**
- FACILITY BOUNDARY
  - FENCELINE
  - ROADWAY
  - PATHWAY
  - RAILROAD TRACK
  - SURFACE WATER BODY
  - ⊕ SHALLOW MONITORING WELL LOCATION
  - ⊕ DEEP MONITORING WELL LOCATION
  - SOLID WASTE MANAGEMENT UNIT BOUNDARY
  - A AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
  - B ORIGINAL EFFLUENT POND
  - C FORMER SETTLING POND
  - D FORMER SETTLING POND
  - E FORMER SETTLING POND
  - F AREA OF UNTREATED SLUDGE DISPOSAL
  - G AREA OF CHEMFIXED SLUDGE DISPOSAL
  - H CHEMFIXED SLUDGE SPILL\*
  - I DRAINAGE DITCH\*
  - J WASTE WATER TREATMENT PLANT
  - K FORMER TANKS A AND B AREA
  - L FORMER TANK C AREA

\* The spill and the ditch are not necessarily solid waste management units, but are areas to be investigated.

**NOTES:**

- SWMU locations are approximate.
- All values given in mg/L.



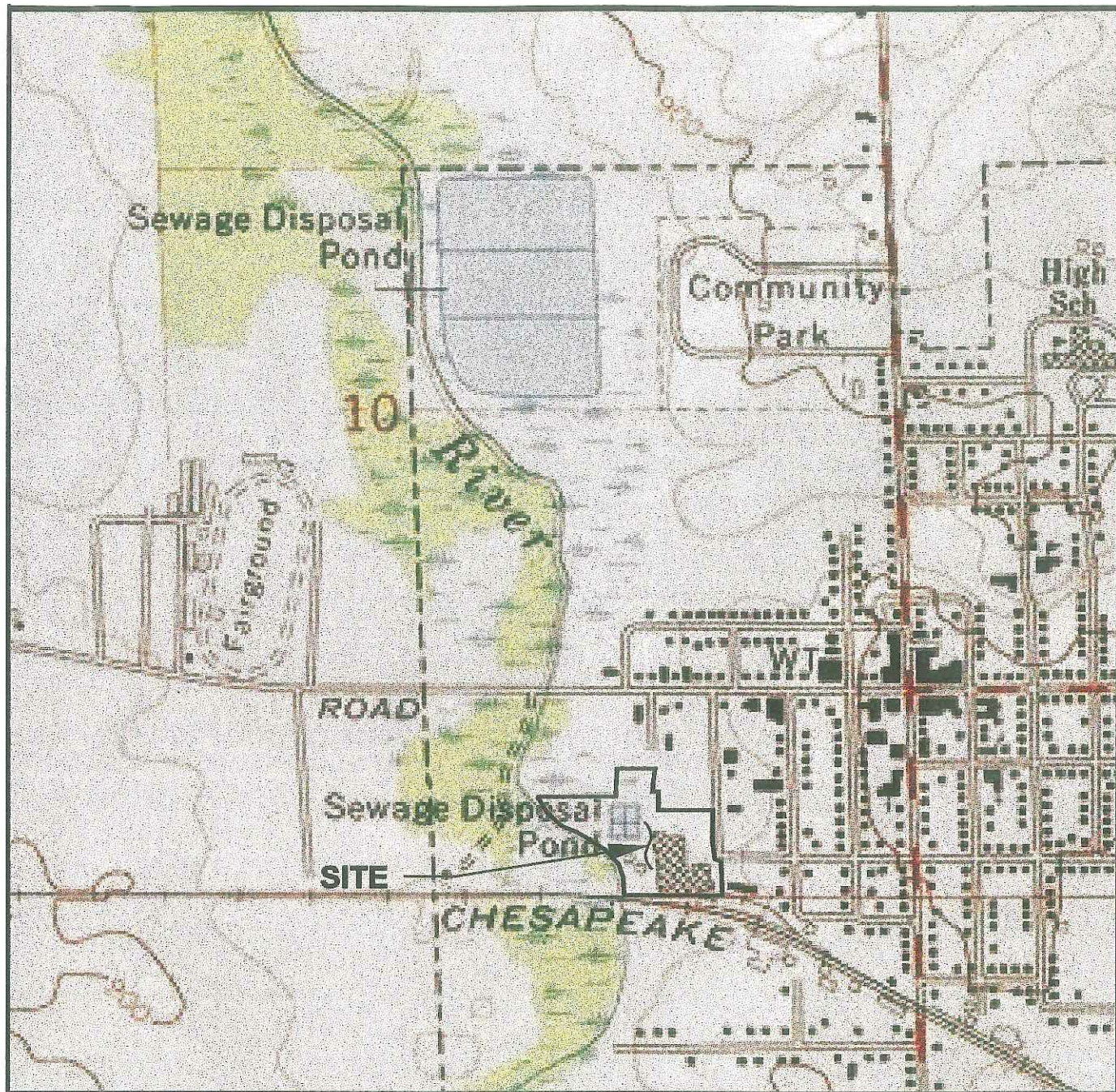
BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

**STANLEY TOOLS**  
FOWLerville, MICHIGAN

**FIGURE 5-4**  
**CYANIDE CONCENTRATIONS**  
**DETECTED IN MONITORING WELLS**

JOB NO. 3163-029-121 DAMES & MOORE





**SOURCE:**

TOPO MAP FROM "MICHIGAN.TPO AND  
"UNTITLED.TPG DATED 10/01/03



4125 Technology Parkway Stoughton, MA 03589-1003 (508) 488-0711

APPROXIMATE SCALE: 1" = 1000'

**FIGURE 1  
SITE LOCATION MAP**

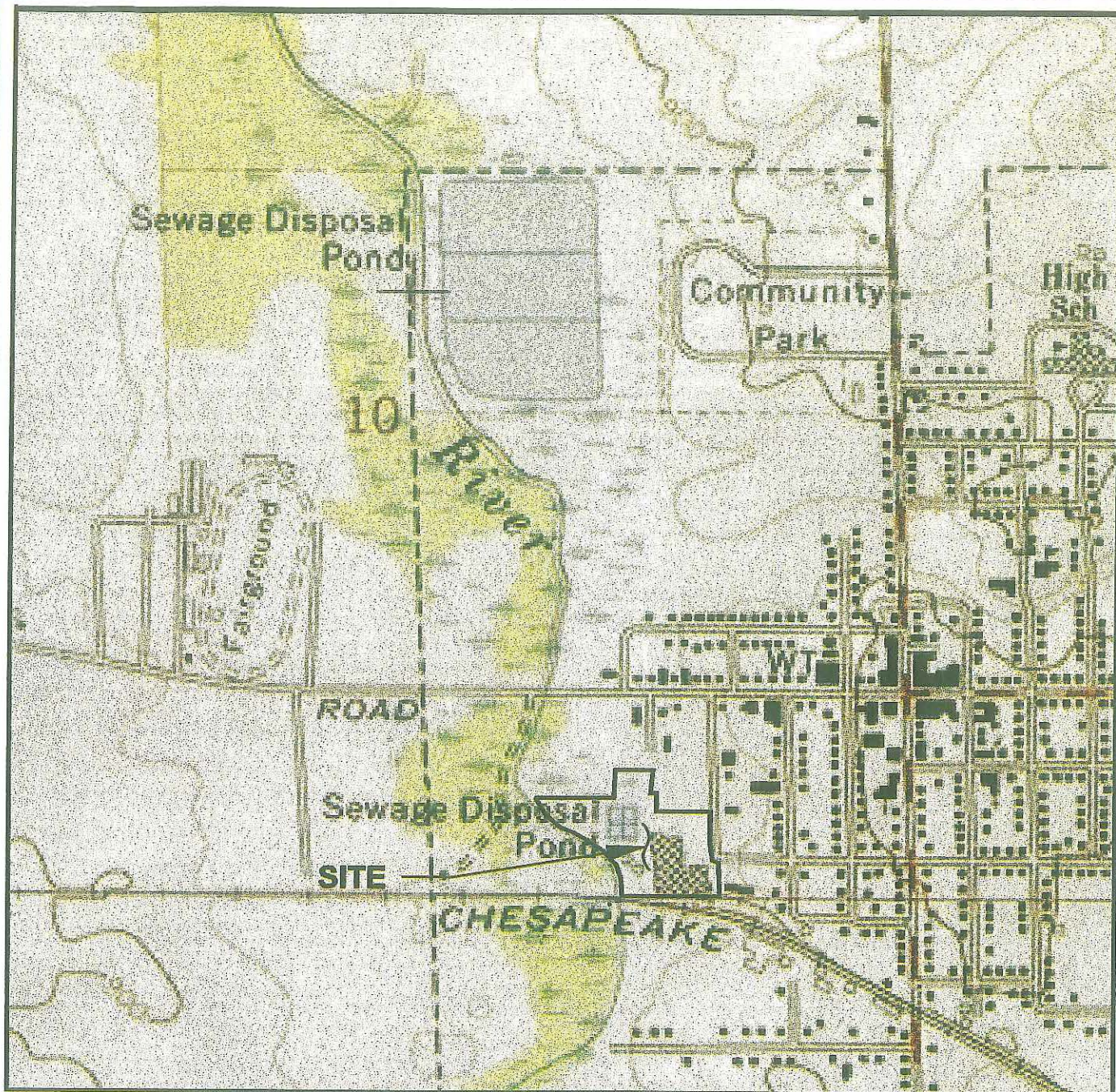
JOHNSON CONTROLS  
FOWLerville, MICHIGAN

NOVEMBER 2003

65468

MID 099 124 299





**SOURCE:**

TOPO MAP FROM "MICHIGAN.TPO AND  
"UNTITLED.TPG DATED 10/01/03



4130 Technology Parkway, Raleigh, NC 27603-1993 (919) 455-0711

APPROXIMATE SCALE: 1" = 1000'

**FIGURE 1  
SITE LOCATION MAP**

JOHNSON CONTROLS  
FOWLerville, MICHIGAN

NOVEMBER 2003

65468



# **Technical Report:** **March 2008 Groundwater** **Monitoring Program Results and** **Baseline Ecological Risk Assessment**

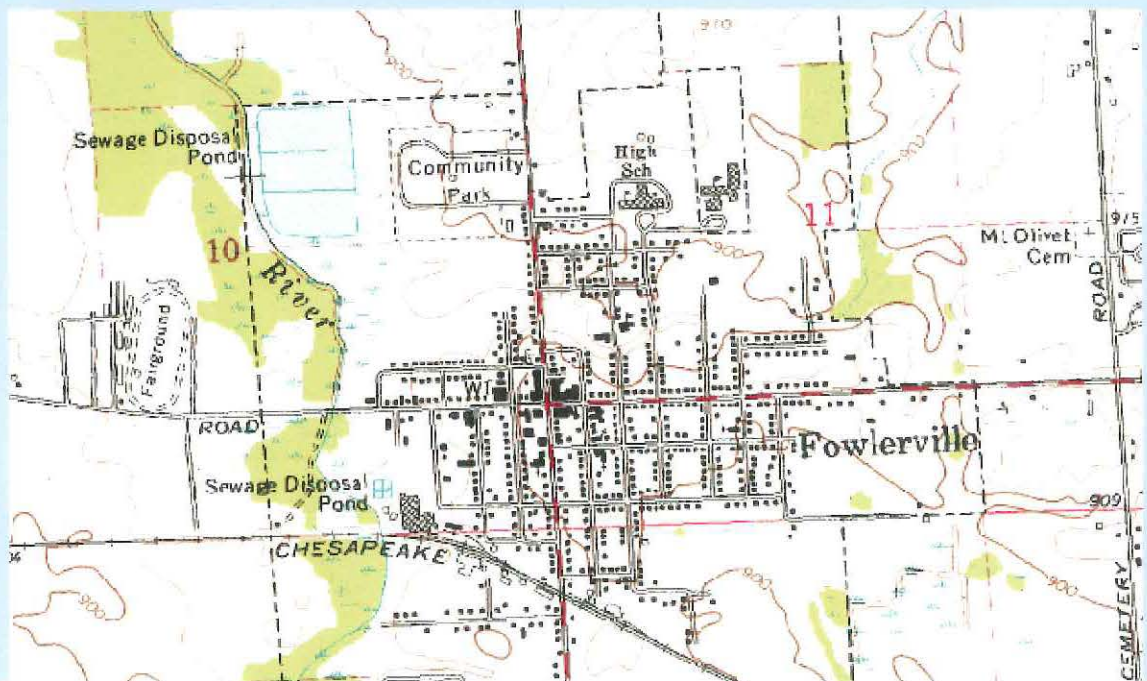
**Former JCI Stanley Tools Site**  
**Fowlerville, Michigan**

**April 2008**

**Prepared by:**



**ENTACT.**





**APPENDIX A**  
**SITE PHOTOGRAPHS**





PHOTO 1

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Log jam on river immediately downstream of confluence with north ditch, between stations 01 and 02. Looking downstream (N).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0935





PHOTO 2

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Log jam on river immediately downstream of confluence with north ditch (right foreground, between stations 01 and 02)  
Looking NW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0935





PHOTO 3

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 1, approximately 70 feet downstream (N) of sediment sample location SD-J2-001.  
Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0940





PHOTO 4

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting chemistry/bioassay sample at location SD-J2-001. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0940





PHOTO 5

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting macro invertebrate sample with Surber sampler at community survey Station 01. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1105





PHOTO 6

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 02, approximately 40 feet upstream (S) of sediment sample location SE/RC-9/1-002. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 7

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 2, approximately 40 feet upstream (S) of sediment sample location SE/RC-9/1-002. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 8

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-E3-003. Area of community survey Station 03 was located approximately 15 feet downstream (N). Looking NW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 9

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-E3-003. Area of community survey Station 03 located approx. 15 feet downstream (north), in foreground. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1230





PHOTO 10

DATE: July 24, 2007

SUBJECT: Location of sediment sample SD-E3-003. Sampling at SE/RE-3/3-004 occurring in background. Looking S..

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1230





PHOTO 11

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting sediment sample SD-C1-005. Looking W.

PHOTOGRAPHER: Rhonda Regester

TIME: 1305.





PHOTO 12

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting sediment sample SD-A1-006. Looking W.

PHOTOGRAPHER: Mike Carlson

TIME: 1325



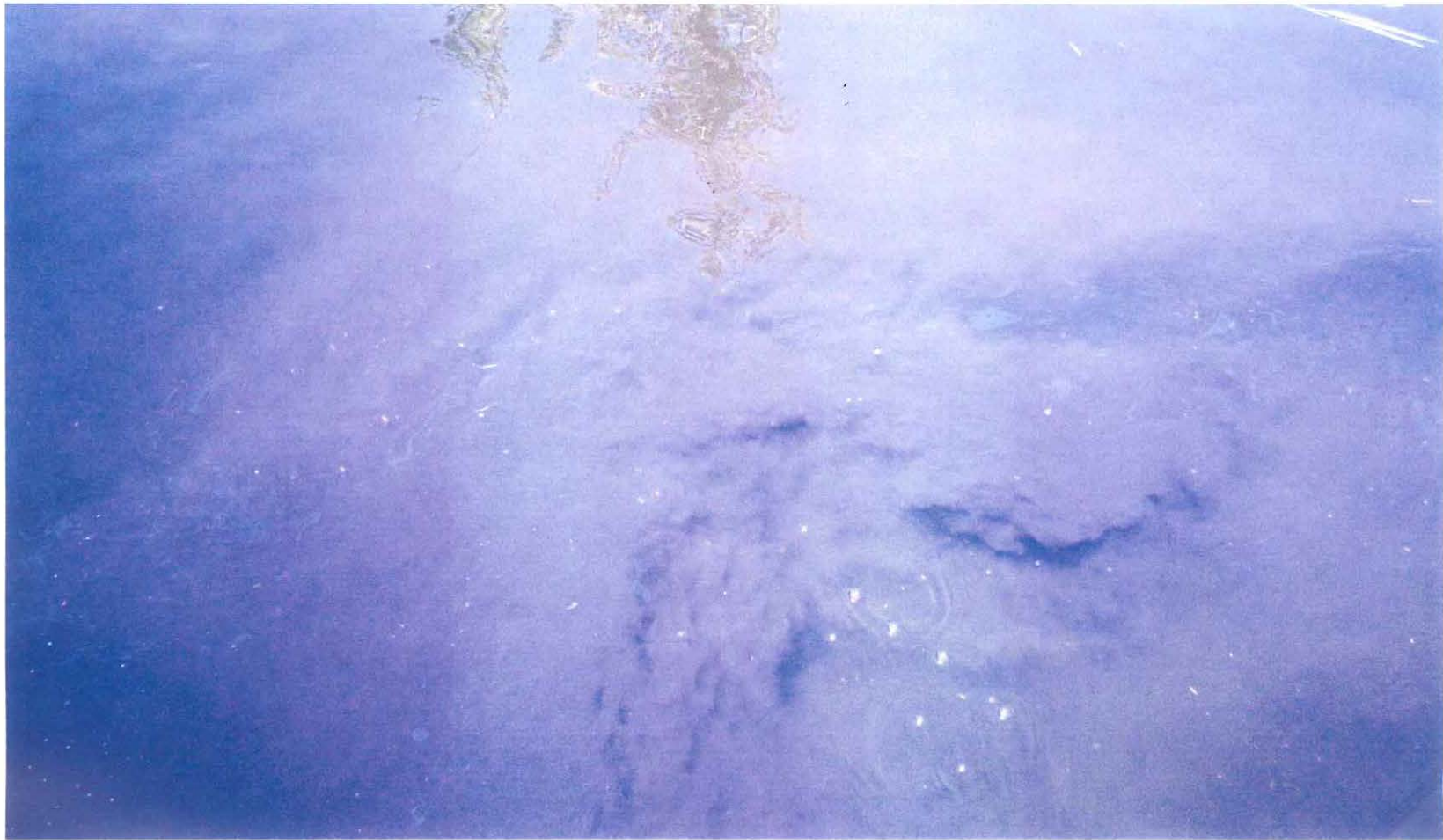


PHOTO 13

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Oily sheen on water after collecting sediment samples at SD-E2-003.

PHOTOGRAPHER: Rhonda Regester

TIME: Approx. 1400

Oily sheen?  
pebbles?





PHOTO 14

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station 04, approx. 20 feet downstream (north) of sample SE-RE-3-3-004 (stake in river, left side of photo). Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 15

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station04, approx. 20 feet downstream (north) of sediment sample SE-RE-3-3-004 (stake in river, center of photo). Looking S.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 16

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station 04, approx. 20 feet downstream (north) of sample sediment SE-RE-3-3-004 (near stake in river). Location of sediment sample SD-E2-003 at stake in background. Looking N.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 17

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535





PHOTO 18

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535





PHOTO 19

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535





PHOTO 20

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Reference sediment sample location SD-007, looking SW. Community survey station 07 collected approximately 100 feet upstream (S).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 21

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Reference sediment sample location SD-007, looking NW. Community survey station 07 collected approximately 100 feet upstream (S).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 22

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of lowland deciduous bottomland forest adjacent to River, east  
of reference sample location SD-007, looking E.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 23

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Community survey Station 07, looking WNW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0955





PHOTO 24  
DATE: July 25, 2007  
SITE: Former Stanley Tool Site, Fowlerville, Michigan  
SUBJECT: Community survey Station 07, looking WNW.

PHOTOGRAPHER: Jeff Stofferahn  
TIME: 0955





PHOTO 25

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of large open marsh in middle of bottomland forest, east of River, north of Interstate I-96.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 26

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting samples at Community Survey Station 08. This location is approximately 600 stream-feet downstream of sediment reference sample SD-008.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 27

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of Community Survey Station 08. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1000





PHOTO 28

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 25, 2007

TIME: Approx. 1000

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of Community Survey Station 08. Looking SW.





PHOTO 29  
DATE: July 25, 2007  
SITE: Former Stanley Tool Site, Fowlerville, Michigan  
SUBJECT: View of river upstream of Community Survey Station 08. Looking S.

PHOTOGRAPHER: Jeff Stofferahn  
TIME: Approx. 1000





PHOTO 30

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: River upstream of Community Survey Station 08 (further upstream from photo 29). Area of shallow riffles and floating and emergent vegetation. Looking ESE

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1015



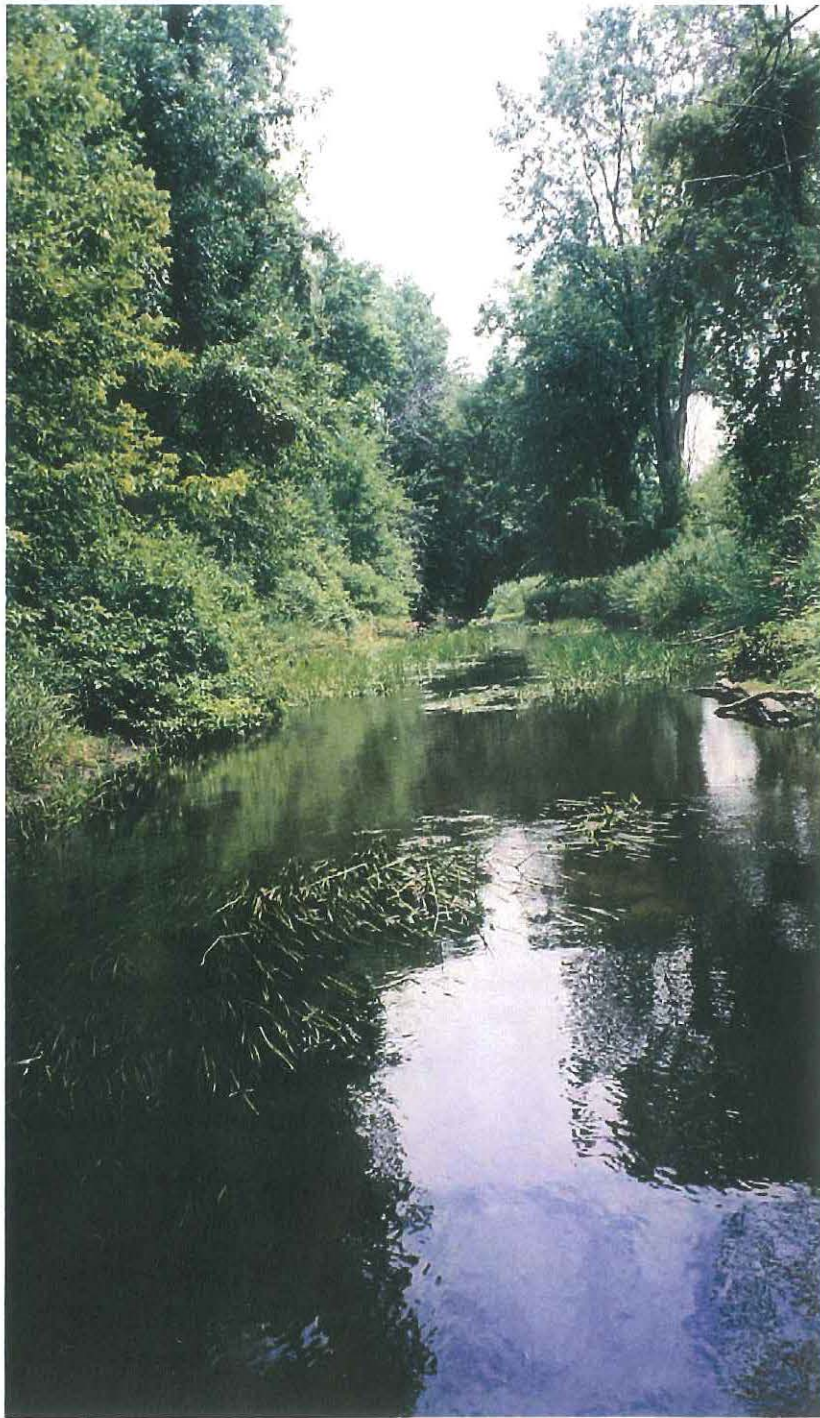


PHOTO 31

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: River upstream of Community Survey Station 08 (further upstream from photo 28). Area of shallow riffles and floating and emergent vegetation. Looking ESE

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1015





PHOTO 32

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Close-up of vegetation in riffle area (*Valesnaria* and *Sagittaria*), upstream of Community Survey Station 08.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1015





PHOTO 33

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SE-RC-13/1-008. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1350





PHOTO 34

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of Sediment sample SD-A1-006 near SW corner of the former Stanley site. Community Survey Station 06 placed approximately 40 feet north of sediment sample. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1430





PHOTO 35

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 25, 2007

TIME: Approx. 1600

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of former Stanley Site, looking E from river. Wetland area is a low portion of site that drains to the river.





PHOTO 36

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 24, 2007

TIME: Approx. 1430

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Photograph of wood frog (*Rana sylvatica*) on emergent log along river bank near location of community survey station 04.

(Note, image is cropped and enlarged from electronic copy of original film photograph)





PHOTO 37

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 24, 2007

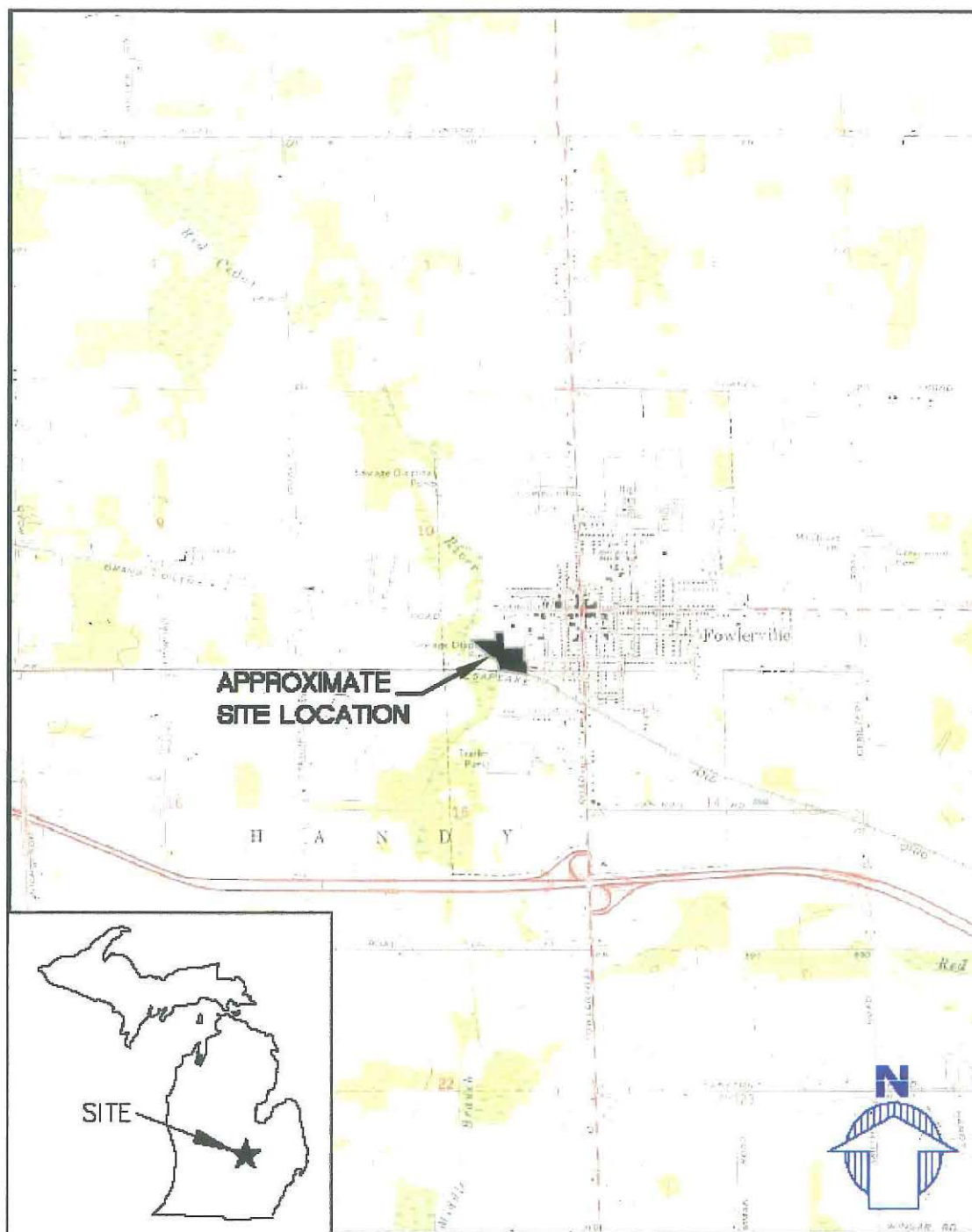
TIME: Approx. 1430

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Photograph of leopard frog (*Rana pipiens*) on river bank near  
location of community survey station 04.

(Note, image is cropped and enlarged from electronic copy of original  
film photograph)





21

no figure 2?



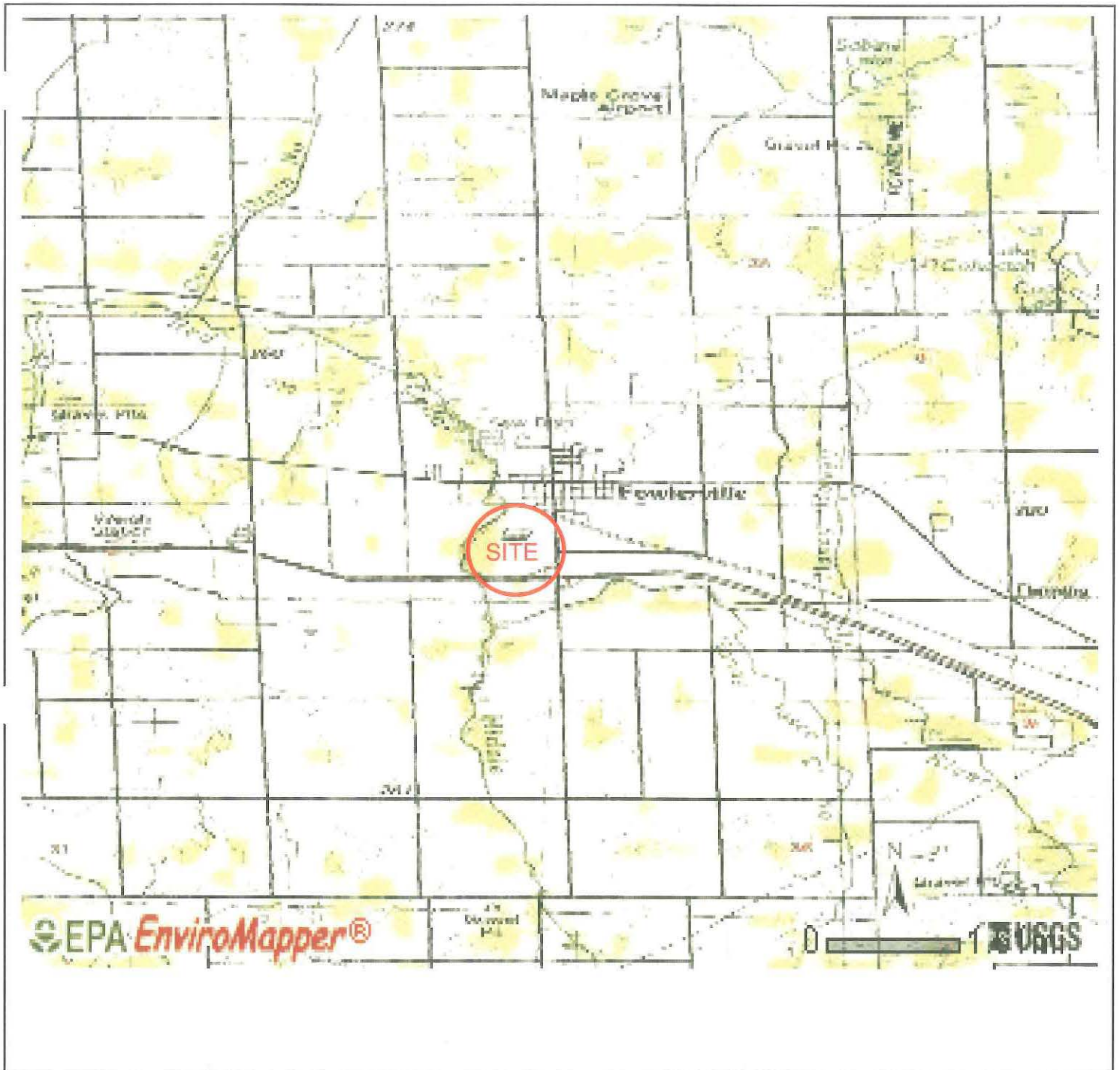


Figure 1  
General Site Location  
JCI - Former Stanley Tools Facility,  
Fowlerville, Michigan



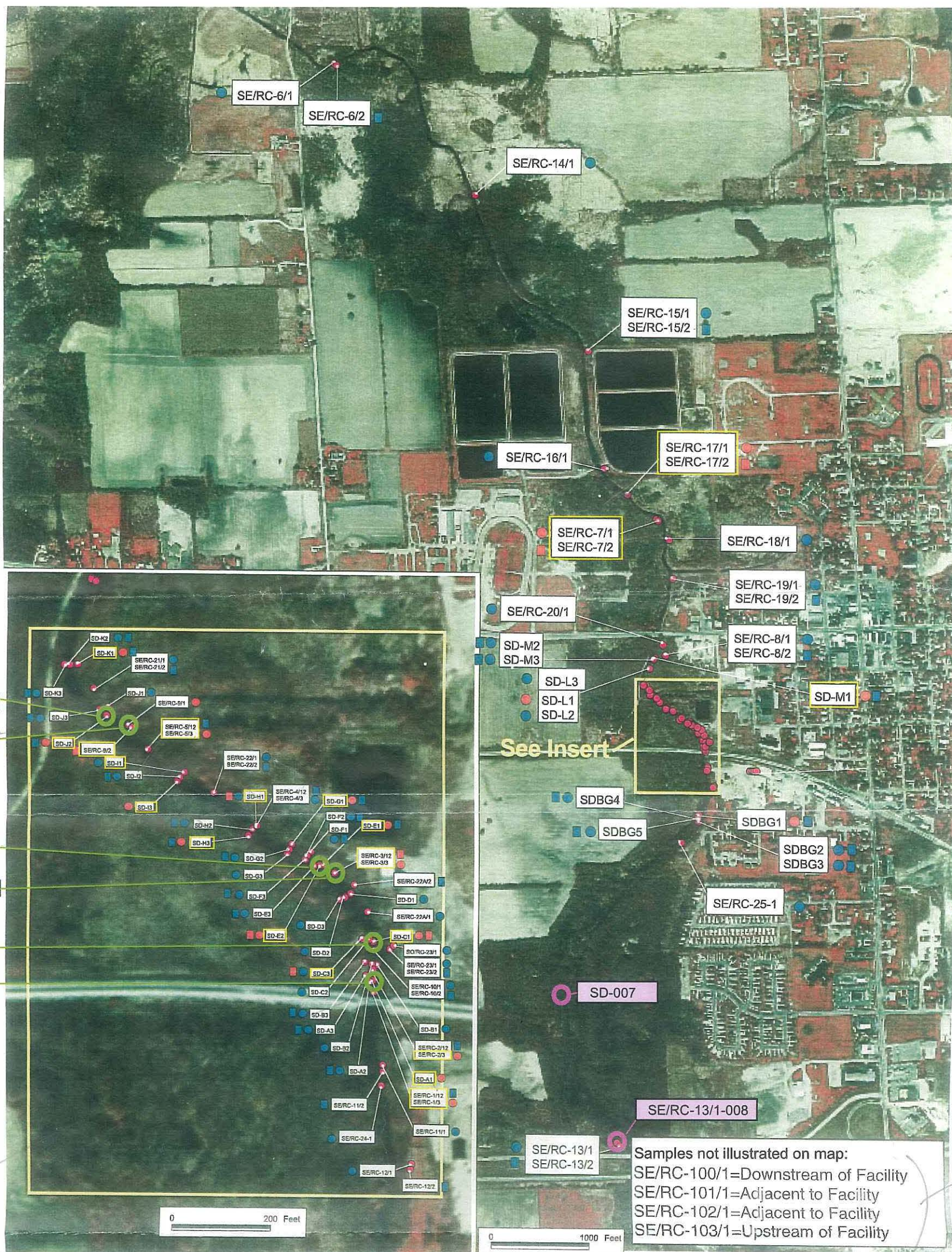


Figure 3  
Sediment Sample Locations  
Baseline Ecological Risk Assessment  
Former Stanley Tools, Fowlersville, MI



# SEMI-ANNUAL GROUNDWATER SAMPLING RESULTS REPORT

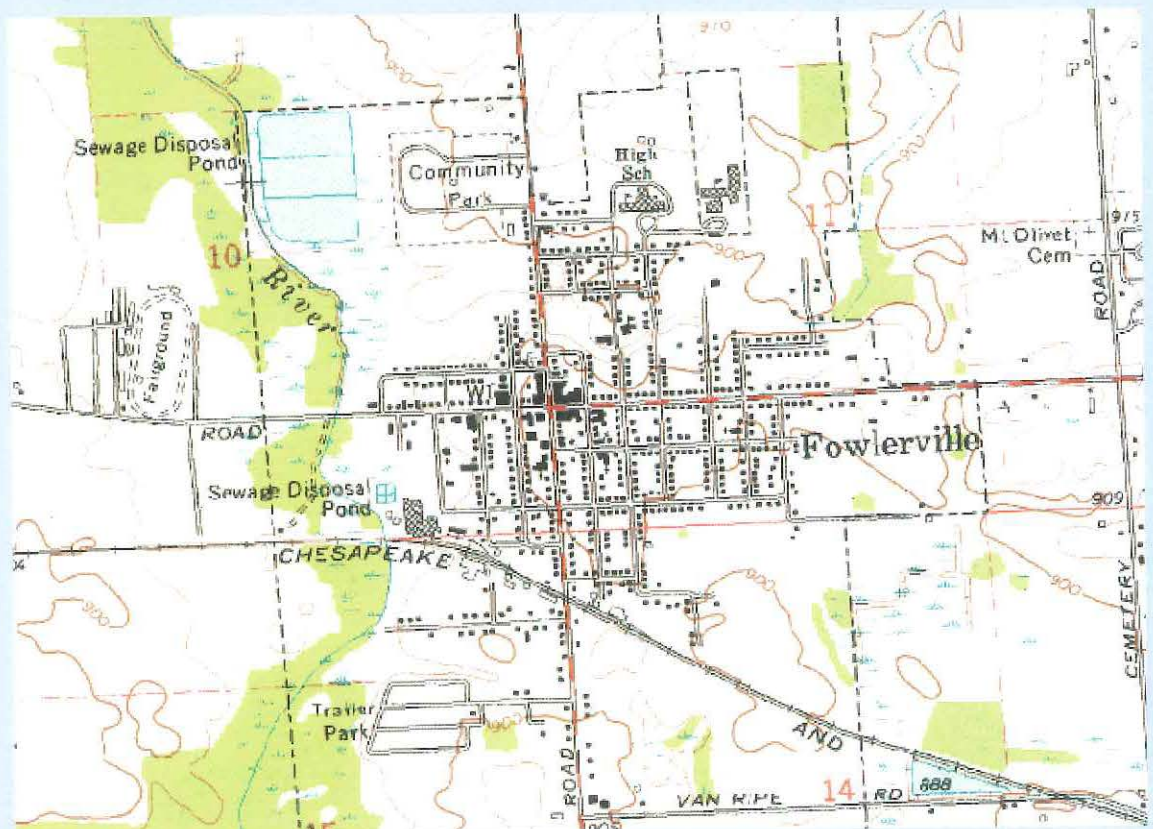
JCI FORMER STANLEY TOOL WORKS  
FOWLerville, MICHIGAN

November 2007

Prepared by:



ENTACT.





MID 099 124 299

**APPENDIX A**  
**SITE PHOTOGRAPHS**





PHOTO 1

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Log jam on river immediately downstream of confluence with north ditch, between stations 01 and 02. Looking downstream (N).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0935





PHOTO 2

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Log jam on river immediately downstream of confluence with north ditch (right foreground, between stations 01 and 02)  
Looking NW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0935





PHOTO 3

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 1, approximately 70 feet downstream (N) of sediment sample location SD-J2-001.  
Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0940





PHOTO 4

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting chemistry/bioassay sample at location SD-J2-001. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0940





PHOTO 5

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting macro invertebrate sample with Surber sampler at community survey Station 01. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1105





PHOTO 6

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 02, approximately 40 feet upstream (S) of sediment sample location SE/RC-9/1-002. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 7

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Area of community survey Station 2, approximately 40 feet upstream (S) of sediment sample location SE/RC-9/1-002. Looking W.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 8

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-E3-003. Area of community survey Station 03 was located approximately 15 feet downstream (N). Looking NW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1120





PHOTO 9

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-E3-003. Area of community survey Station 03 located approx. 15 feet downstream (north), in foreground. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1230





PHOTO 10  
DATE: July 24, 2007  
SUBJECT: Location of sediment sample SD-E3-003. Sampling at SE/RE-3/3-004 occurring in background. Looking S..

PHOTOGRAPHER: Jeff Stofferahn  
TIME: Approx. 1230





PHOTO 11

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting sediment sample SD-C1-005. Looking W.

PHOTOGRAPHER: Rhonda Regester

TIME: 1305.





PHOTO 12

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting sediment sample SD-A1-006. Looking W.

PHOTOGRAPHER: Mike Carlson

TIME: 1325



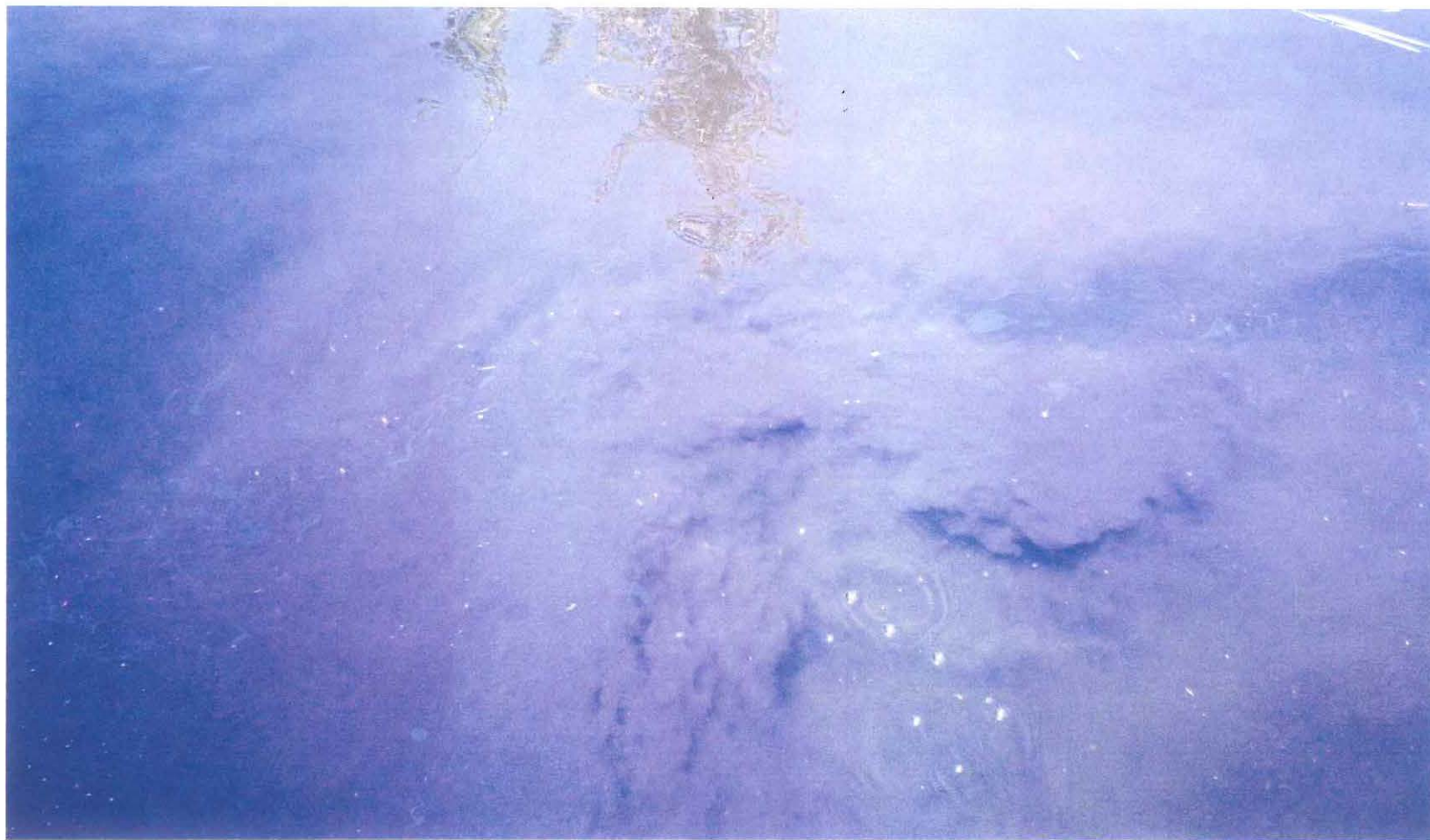


PHOTO 13

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Oily sheen on water after collecting sediment samples at SD-E2-003.

PHOTOGRAPHER: Rhonda Regester

TIME: Approx. 1400





PHOTO 14

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station 04, approx. 20 feet downstream (north) of sample SE-RE-3-3-004 (stake in river, left side of photo). Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 15

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station04, approx. 20 feet downstream (north) of sediment sample SE-RE-3-3-004 (stake in river, center of photo). Looking S.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 16

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of community survey Station 04, approx. 20 feet downstream (north) of sample sediment SE-RE-3-3-004 (near stake in river). Location of sediment sample SD-E2-003 at stake in background. Looking N.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1405





PHOTO 17

DATE: July 24, 2007

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005. Looking W.





PHOTO 18

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535





PHOTO 19

DATE: July 24, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of sediment sample SD-C1-005.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 1535





PHOTO 20

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Reference sediment sample location SD-007, looking SW. Community survey station 07 collected approximately 100 feet upstream (S).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 21

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Reference sediment sample location SD-007, looking NW. Community survey station 07 collected approximately 100 feet upstream (S).

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 22

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of lowland deciduous bottomland forest adjacent to River, east of reference sample location SD-007, looking E.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 23

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Community survey Station 07, looking WNW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0955





PHOTO 24

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Community survey Station 07, looking WNW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0955





PHOTO 25

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of large open marsh in middle of bottomland forest, east of River, north of Interstate I-96.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 26

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Collecting samples at Community Survey Station 08. This location is approximately 600 stream-feet downstream of sediment reference sample SD-008.

PHOTOGRAPHER: Jeff Stofferahn

TIME: 0945





PHOTO 27

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of Community Survey Station 08. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1000





PHOTO 28  
DATE: July 25, 2007  
SITE: Former Stanley Tool Site, Fowlerville, Michigan  
SUBJECT: Location of Community Survey Station 08. Looking SW.

PHOTOGRAPHER: Jeff Stofferahn  
TIME: Approx. 1000





PHOTO 29

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of river upstream of Community Survey Station 08. Looking S.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1000





PHOTO 30

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 25, 2007

TIME: Approx. 1015

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: River upstream of Community Survey Station 08 (further upstream from photo 29). Area of shallow riffles and floating and emergent vegetation. Looking ESE



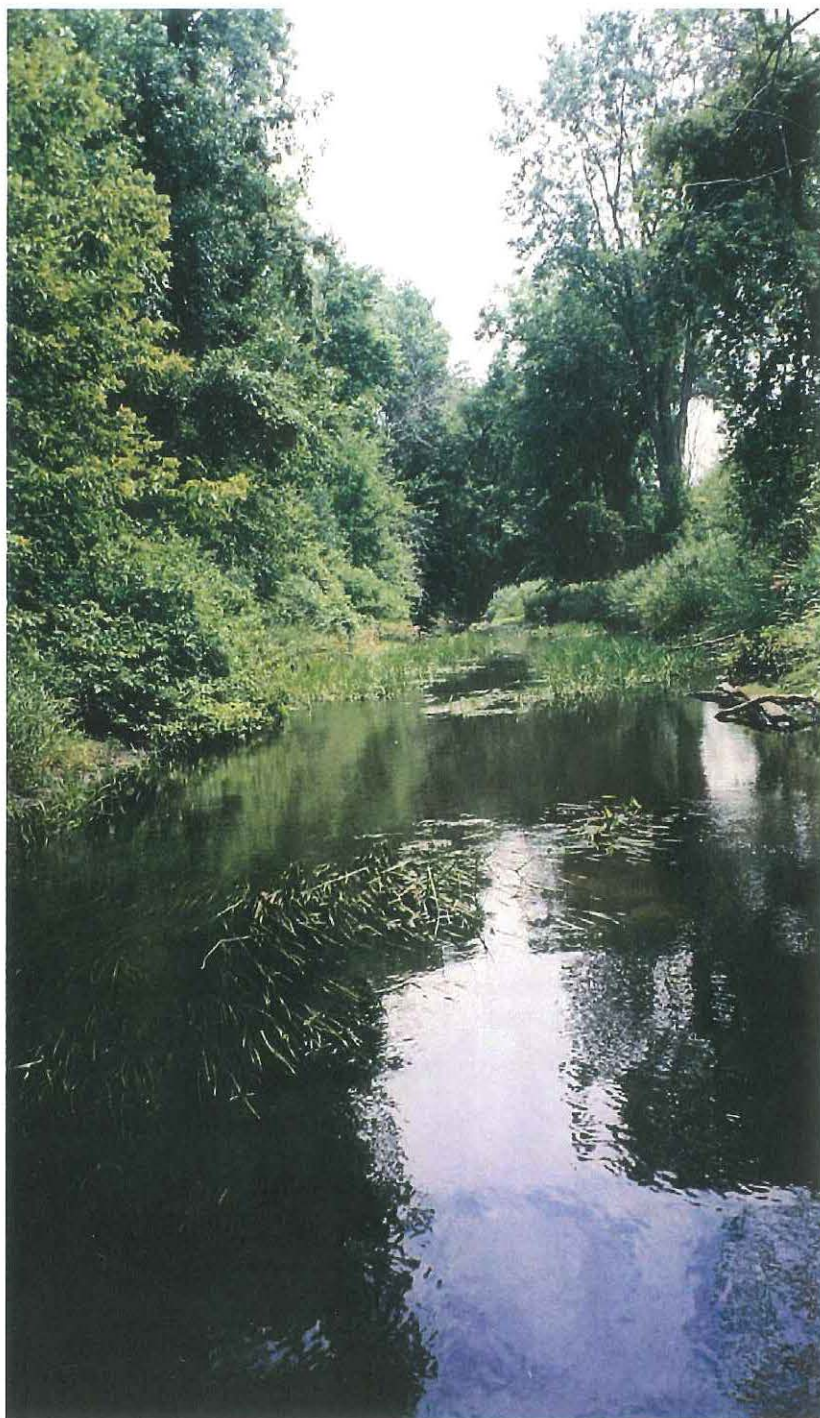


PHOTO 31

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: River upstream of Community Survey Station 08 (further upstream from photo 28). Area of shallow riffles and floating and emergent vegetation. Looking ESE

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1015





PHOTO 32

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Close-up of vegetation in riffle area (*Valesnaria* and *Sagittaria*), upstream of Community Survey Station 08.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1015





PHOTO 33  
DATE: July 25, 2007  
SITE: Former Stanley Tool Site, Fowlerville, Michigan  
SUBJECT: Location of sediment sample SE-RC-13/1-008. Looking W.

PHOTOGRAPHER: Jeff Stofferahn  
TIME: Approx. 1350





PHOTO 34

DATE: July 25, 2007

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Location of Sediment sample SD-A1-006 near SW corner of the former Stanley site. Community Survey Station 06 placed approximately 40 feet north of sediment sample. Looking SSW.

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1430





PHOTO 35

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 25, 2007

TIME: Approx. 1600

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: View of former Stanley Site, looking E from river. Wetland area is a low portion of site that drains to the river.





PHOTO 36

DATE: July 24, 2007

PHOTOGRAPHER: Jeff Stofferahn

TIME: Approx. 1430

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Photograph of wood frog (*Rana sylvatica*) on emergent log along river bank near location of community survey station 04.

(Note, image is cropped and enlarged from electronic copy of original film photograph)





PHOTO 37

PHOTOGRAPHER: Jeff Stofferahn

DATE: July 24, 2007

TIME: Approx. 1430

SITE: Former Stanley Tool Site, Fowlerville, Michigan

SUBJECT: Photograph of leopard frog (*Rana pipiens*) on river bank near location of community survey station 04.

(Note, image is cropped and enlarged from electronic copy of original film photograph)